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STATUS OF FOREST INSECT CONDITIONS
WHEELER PEAK AREA
HUMBOLDT NATIONAL FOREST

By

R. I. Washburn, Entomologist

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DIVISION OF FOREST INSECT RESEARCH
INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
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An aerial detection survey and ground inspection on the Snake River Division, Humboldt National Forest was made by the Division of Forest Insect Research the week of November 16. This area, dominated by Wheeler Peak, contains some 53,000 acres of mixed conifer timber as well as many acres of aspen, pinyon-juniper, and mountain mahogany type. Our examinations revealed several species of insects present in noticeable numbers.

Fir engraver beetle

The fir engraver beetle, Scolytus ventralis, appears in near epidemic numbers in Baker Creek and Pole and Young Canyons. In Baker Creek there are several hundred infested white fir, most of which occur in dense fir stands mixed with Douglas-fir. While considerable tree mortality is taking place it does not appear to be in excess of that normally expected in dense mature stands. In all probability the loss of white fir caused by this bark beetle will remain about constant for the next few years. Post-mortem of standing snags and down trees shows a long history of fir engraver beetle activity in the fir stands of the Snake River Division.

Tussock Moth

An epidemic infestation of tussock moth, covering about 5,000 gross acres of white fir (Abies concolor) was discovered on the east side of the Snake range. This infestation extends from south of Chokecherry Creek to the North Fork of Big Wash at an elevation of 7,200 to 9,000 feet. White fir is the dominant species but is mixed with juniper, pinyon pine and mountain mahogany particularly in the lower slopes of the infested area. The insect has been active in the area for a number of years (approximately 5). Extensive tree mortality has occurred in the upper portion of the timber type around rocky ledges. The infestation is now moving down into better timber in the creek bottoms with an average defoliation of 90 percent of this year's growth. Some trees in creek bottoms have been heavily defoliated for the past couple of years. At the time biological evaluations were made the insect was in the egg stage. Predators and parasites, of course, would not be obvious at this time of year but a few dead larvae were observed that could possibly have been affected by a virus. In close proximity to heavily defoliated trees, pupal cases with attached egg clusters could be found on any trees or shrubs and on the under side of down material. Therefore, the standard branch sampling of the host did not produce a reliable estimate of egg population. In the case of more lightly defoliated trees, the pupal cases were found only on the host.

Defoliation did not occur on any tree species except white fir. Tussock moth eggs will be reared in the laboratory to determine if a virus is present and to assess its possible effect on the population density of the next generation. Present conditions indicate that in all probability an increased amount of defoliation will occur next year. In addition, the infestation will probably increase areawise.

Black Hills beetle

Limited amounts of ponderosa pine grow in several areas on the Snake River Division. In two areas on the north side of Buck Mountain and in Young Canyon, faded ponderosa pine were observed from the air. Ground checks of these areas revealed the faders were due to Black Hills beetle activity. The Black Hills beetle appears to have had some grouping tendency in the past and may have been at a near epidemic level. Conditions indicate only endemic populations are now present. The ratio of currently infested trees against trees attacked last year appears to be less than 1 to 1. Only two currently infested trees were located in Young Canyon, both were overmature and of large diameter (over 30 inches d.b.h.). In addition, one had been struck by lightning and the other had a sparse flat crown. In both trees brood and attack density was light and even if brood mortality is not excessive it does not appear that sufficient brood could emerge as adults to cause an increase in the number of trees attacked next year. No new attacked trees were observed on the north side of Buck Mountain but it was concluded that conditions were similar to those found in Young Canyon.

Tent Caterpillars

It was observed that epidemic populations of tent caterpillars had fed upon the 1959 foliage of the cottonwoods growing along all of the creek bottoms from Snake Creek to Chokecherry Creek. This infestation extended from 7,000 to about 7,300 feet elevation in each drainage. Although we did not make detailed examinations of this pest we feel that in all probability the cottonwoods will be defoliated by tent caterpillars again in 1960. We did not observe any evidence of tent caterpillar activity in aspen.

Spot infestations of what appeared to be a needle scale on pinyon pine was observed scattered throughout the pinyon pine-juniper type. In a few of these areas a small percentage of the smaller trees have lost nearly all of their needles as a result of the feeding by this pest. An effort will be made to more accurately identify this insect.

In connection with the ground inspection of the insect situation, several areas of mistletoe infection were observed. In the upper third of Baker Creek nearly 100 percent of the Douglas-fir was infected, many of which contained two or more large witches'-brooms. Dwarfmistletoe was observed in Douglas-fir in other areas but the Baker Creek area appeared most severely attacked. The pinyon pine stands also contain many spots of dwarfmistletoe infection. One of the heaviest observed was in the first draw south of Baker Creek. In addition to the dwarfmistletoe infections, a true mistletoe is prevalent in juniper. The most noticeable infection occurs near Lehman Cave where the juniper is a major species rather than pinyon.